













# ELDORADO Nuclear Limited



HEAD OFFICE: Suite 800, 151 Slater St., Ottawa, Canada, KIP 5H3 General Administration Office: Port Hope, Ontario, Canada

#### DIRECTORS

Marcel Bélanger

W. J. Bennett

Roger Blais

W. M. Gilchrist\*

W. F. James\*

W. S. Kirkpatrick

Gordon Lawson\*

\*Members of Executive Committee

#### **OFFICERS**

President: W. M. Gilchrist

Vice-President, Marketing — J. C. Burger

Vice-President, Administration and Finance — C. Baschenis

Secretary: R. C. Powell

Treasurer: J. C. Orr

Asst. Treasurer: G. A. Frost

#### **DIVISIONAL MANAGERS**

Mining and Exploration Division: C. F. Smith Refining and Research: G. F. Colborne

#### DISTRICT OFFICES

Refining and Sales: Port Hope, Ontario

Metallurgical Laboratories: Tunney's Pasture, Ottawa, Ontario

Beaverlodge Mine: P.O. Box 7010, Eldorado, Saskatchewan

Western Purchasing and Employment Office: 10040 - 105th Street, Edmonton, Alberta

#### Sales Agencies Abroad

Europe: Wambesco International B.V., P.O. Box 1439, Westerkade 2, Rotterdam, Netherlands
Japan: Marubeni Corporation, P.O. Box Central 595, Tokyo

#### ELDORADO AVIATION LIMITED

HEAD OFFICE: Suite 800, 151 Slater St., Ottawa, Canada, KIP 5H3
OPERATIONS OFFICE: No. 11 Hangar, Municipal Airport, Edmonton, Alberta

#### DIRECTORS

W. M. Gilchrist

P. L. P. Macdonnell

L. R. Montpetit

R. C. Powell

#### **OFFICERS**

President: W. M. Gilchrist

Secretary: R. C. Powell - Treasurer: J. C. Orr

General Manager: E. I. Bjorge



# 1972 ANNUAL REPORT Eldorado Nuclear Limited

# PRESIDENT'S LETTER

W.M. Gilchrist

The Honourable Donald S. Macdonald, Minister of Energy, Mines and Resources, Ottawa, Ontario.

Sir:

On behalf of the Board of Directors, and in accordance with Section 75(3) of the Financial Administration Act, I have the honour to submit the Annual Report of Eldorado Nuclear Limited and of its subsidiary company, Eldorado Aviation Limited, for the year ended December 31, 1972.

Production of uranium in Canada for 1972 totalled 10,408,000 pounds (5,204 tons) of  $\rm U_3O_8$  as compared with 9,952,000 pounds in 1971. Over the past four years the rate of production has been increasing at about 6% annually, satisfying the current contractual obligations of the three Canadian producers. In Eldorado's case, production in recent years has resulted in a build-up of inventory which in the Company's judgement is justified in light of the burgeoning future demand for uranium.

Over the past several years, annual production in the western world has been relatively stable at about 23,000 tons  $\rm U_3\,O_8$ , whereas annual consumption has steadily increased to about 16,000 tons in 1972. Generally accepted forecasts show that by the mid-seventies the western world annual consumption will begin to exceed annual production.

Although each Canadian producer committed uranium for sale in 1972, the largest contract was written by Denison Mines Limited with a consortium of power utilities in Spain, acting jointly with Uranium Canada, Limited. Commitments by Canadian producers for future deliveries extending into the 1980's total about 62,000 tons U<sub>3</sub>O<sub>8</sub>, of which almost 90% is for export.

Nuclear Power

Throughout the western world, 56 nuclear power reactors with a combined output of 54,640 megawatts of electricity were ordered in 1972 by

the electric utilities. These commitments established an all-time record for annual orders by the nuclear power industry, and it is widely predicted that the pace of ordering in 1973 will be equally impressive. To date, 342 reactors with an output of about 235,000 megawatts are either operating, under construction or ordered. Almost 100 additional reactors are in the firm planning stage.

In spite of these impressive figures, demonstrating the utilities' irrevocable commitment to nuclear power, delays persist in reactor programs, notably in the United States. Although considerable progress has been made in overcoming the causes of these delays, the magnitude of the American program continues to bring with it chronic problems of construction scheduling, public intervention, and government licensing. As a consequence, the utilities and reactor manufacturers have had to compensate by increasing the lead time required to put a reactor on stream. Orders signed in 1970 were for reactors to be in full operation in just over 6 years; orders let in 1972 call for reactors to be on stream in an average of 8 1/2 years. The western world now has 108 nuclear reactors generating electricity, for commercial use, and the experience gained in their construction and operation will go a long way towards helping to alleviate many of the difficulties which have plagued this rapidly growing industry. The tremendous development and acceptance of nuclear-generated electricity within such a short period strongly suggest that utilities at large consider the problems that have been encountered to be of a passing nature, symptomatic of growing pains.

In Canada, 1972 saw the commissioning in Ontario of the third unit at the Pickering nuclear power complex and the ordering by Quebec Hydro of its second reactor. The outstanding success achieved by the Pickering operation to date has demonstrated the excellent capabilities and future potential of the CANDU system and is testimony to the wisdom of having undertaken and of continuing in Canada concentrated nuclear research on a uniquely Canadian reac-



tor concept. The fourth unit at Pickering will go into service in 1973 and the new Quebec Hydro plant is scheduled for operation in 1979. These commitments, and Ontario Hydro's Bruce nuclear power complex now under construction, indicate that Canada will have a nuclear power output of at least 6,400 megawatts by the end of the decade.

Uranium Exploration and Development

Interest in exploration for uranium continues at a low ebb in most countries. Although the major uranium producers around the world are quite aware of the urgent need for additional reserves to meet future requirements, the financial burden of preserving their present operations in this period of high costs and low demand make it extremely difficult for most to commit funds to exploration ventures. Similarly, the depressed market has virtually cut off funds from outside the industry.

Considerable concern is increasingly being expressed about declining sources of energy fuel in many parts of the world. This decline is particularly critical in the United States where there is already a heavy dependence on foreign sources of oil and natural gas, and an obvious potential requirement for foreign uranium. This concern over resources is causing countries with supplies of energy fuels to look first at their own domestic future needs before allowing large quantities of fuels to be exported. Indicative of this new philosophy is the recent implementation of export controls in Australia.

In Canada, quotas have been set governing the export of natural gas and most recently also of oil. Foreign contracts for Canadian uranium and Canada's own domestic requirements to the end of the century are approaching the total of Canada's current proven recoverable reserves of uranium. Obviously, substantial additions to these reserves are essential if Canada is to maintain her established position in world uranium trade. There has never been any doubt as to Canada's geological potential for additional supplies of uranium, and a number of deposits that would support economic mining operations, albeit at prices considerably higher than those currently in force, have been recognized. Nor is there any doubt as to the exploration and production capability of the Canadian mining industry. Mining companies, however, are not likely to risk such long term, high cost ventures until they can be certain that profits are possible. Current world prices for uranium do not provide that assurance.

Assurance will come only when the electric utilities recognize the length of time that must elapse from the inception of an exploration program until the start of production of mine

concentrates from a viable uranium deposit. On the average, the time involved is no less that that required by utilities from the signing of an order for a reactor until its commissioned service. In planning towards this production goal, the utilities carefully schedule the orderly input of equipment, instrumentation and technical staff, but ironically, this long-term sensible and disciplined approach to planning does not appear to extend to providing an adequate and reliable continuing supply of fuel. According to the United States Atomic Energy Commission, less than half of the uranium required during the 1972-1980 period has been contracted for by American utilities. The practice in some other parts of the world is no better. As orders for reactors rapidly increase, the utilities must accept the fact that it is essential for them to ensure their forward supplies of nuclear fuel no later than the date of committing the reactor to construction. To do otherwise will force the uranium mining industry into an unwanted disorderly expansion at costs far greater than necessary.

Eldorado Operations

An outline of the company's 1972 operations is provided in the annexed report. Regrettably, the loss of \$3.6 million sustained by your company in 1972 represents the company's poorest financial performance in its history. Nevertheless, the company believes that while it may well be a little longer before the marketing of mine concentrates is again profitable for the company, the company is, fortunately, on the threshold of reaping the benefits of its planned diversification into new products and services at its chemical and metallurgical complex at Port Hope. Moreover, the company believes that in view of the vast quantities of uranium required in the not too distant future beyond existing known reserves as discussed in this report, the continued production by the company's Beaverlodge Operation for inventory on a stringent economic basis is justified.

On behalf of the Board of Directors, I would like to express my deep appreciation to all personnel of Eldorado Nuclear Limited and Eldorado Aviation Limited for their constructive efforts during the past year which contributed greatly to the successful continuation of our operations during this extended period of market depression.

For the Directors,

W. m. Gilebut

President

March 6, 1973 Ottawa, Canada

and its wholly-owned subsidiary

#### **ELDORADO AVIATION LIMITED**

## **GENERAL REPORT**

for the year ended December 31, 1972

This general report deals with the operations of both Eldorado Nuclear Limited and its whollyowned subsidiary Eldorado Aviation Limited, for the year ended December 31, 1972.

#### Ineome

For the fourth consecutive year the company recorded a loss, brought about chiefly by inadequate total sales, and mounting interest costs in the face of increased loans. The net loss incurred in 1972 was \$3,640,832, compared with a net loss of \$2,329,355 in 1971. However, with reduced deliveries due to slippage in customers' reactor programs apparently past its peak, the increasing volume and higher prices indicated for future years are expected to improve financial results.

#### Capital Expenditures

As planned, the capital program for 1972, resulting in total expenditures of \$1,356,000, turned out to be the least costly of the company's programs since 1966. Of the total, \$756,000 was spent at the Beaverlodge mine on the continuation of the Fay Winze (internal shaft) project, on mine heating and ventilation equipment, and on general equipment for the mine, mill and service departments. At Port Hope most of the \$600,000 expenditures involved equipment additions and replacements for production departments and plant services, including those concerned with effluent treatment. In addition, design engineering work was continued aimed at the ultimate expansion of the UF6 plant to 5000 tons U per year from the existing capacity of 2,750 tons.

In 1973 the capital expenditure program will unavoidably be larger in view chiefly of the requirement at the refinery to complete installation of a falling stream sampling plant, to continue projects requisite to UF<sub>6</sub> plant expansion, to provide for additional uranium process and metallurgical equipment, and to continue the company's emphasis on effluent treatment and monitoring.

# Mining and Exploration Division, Saskatchewan

Mining

Production from the Beaverlodge and Hab mines amounted to 1,334,647 pounds U3O8 recovered from 203,024 tons of ore, reflecting the company's planned program of curtailed operations adopted in 1969.

Mill recovery reached an all-time high, attributable largely to the outstanding performance of pachucas which had been converted to mechanical agitation in 1971.

The superior mill recovery, combined with an increase in ore grade - due mainly to 41% of total production emanating from the Hab mine - has contributed to a 7.6% reduction in  $U_3O_8$  per pound operating costs from the level of the preceding year.

Comparative production statistics to date, excluding custom ore treated, are as follows:

	Tons of Ore Treated	Pounds of U3O <sub>8</sub> Recovered	Average Recovery Pounds Per Ton
1972 *	203,024	1,334,647	6.57
1971 *	219,391	1,204,406	5.49
1970 *	333,906	1,531,893	4.59
1969	456,156	1,562,357	3.43
1968	626,615	2,001,648	3.19
1967	561,434	2,003,369	3.57
1966	511,446	1,687,501	3.30
1965	536,132	1,800,467	3.36
1964	522,148	1,837,029	3.52
1963	544,177	1,855,212	3.41
1962	563,580	1,959,788	3.48
1961	542,157	2,214,894	4.09
1960	625,127	2,454,400	3.93
1959	657,521	2,392,770	3.64
1958	676,354	2,507,663	3.71
1953-57	1.206.309	5,071,265	4.20
1953-72	.,,	-,,-	
Inclusive	8,785,477	33,419,309	3.80

<sup>\*</sup>Includes Hab mine

Ore reserves declined further from 3,508,400 tons grading .24%  $U_3\,O_8$  at year-end 1971 to 2,803,200 tons containing .22%  $U_3\,O_8$  as of

December 31, 1972. The reduction was due in part to deletion from reserves of isolated blocks of ore which do not lend themselves to extraction under present conditions, and to the current phase of the development cycle, which has had the planned effect of halting replenishment of ore reserves pending development of areas made accessible by the Fay Winze.

Capital projects in 1972 included installation of surface and underground substation equipment for the Fay Winze, construction of a new mine heating and ventilation plant and installation of pollution control and effluent treatment facilities. In 1973 it is proposed to continue the Fay Winze program by proceeding with the installation of the hoist, loading pockets and conveyances, shaft electrics and signals. Purchases will provide for rock drill silencers, shotcrete and additional ventilation equipment for the mine, and additions to and replacement of extraction equipment for the mill. Lastly, a project is planned to improve the White Lake dam and sluices for power generation.

In light of the increasing demand by Northern Transportation Company Limited, Eldorado's subsidiary company, upon the purchasing and employment offices which had been maintained by Eldorado in Edmonton over the past twenty-one years, the entire staff of ten persons employed in these offices was transferred to Northern Transportation by year-end 1972 under an arrangement which extends to the parent company, at cost, the corresponding services that it previously had undertaken on behalf of its subsidiary.

#### Exploration

Although a somewhat greater effort than in 1971 was expended on local exploration, the shortage of funds has still precluded the mounting of a general exploration program which obviously it would be desirable for Eldorado, as indeed any mining company, to maintain. No major significant discoveries were made in 1972 but results of the work carried out on claims contiguous to the Beaverlodge Operation continued to be encouraging. Work done in 1972 consisted of diamond drilling, percussion drilling, stripping and trenching, and prospecting. In addition, a modest airborne survey was conducted which will be followed up in 1973 with work on the ground.

### The Operations at Port Hope, Ontario

The UF<sub>6</sub> plant which produces natural uranium hexafluoride - the gaseous form in

which uranium is entered to enrichment facilities in the United States - operated throughout 1972 on the curtailed production schedule of ten days on, four days off, instituted late in 1971 due to slippage in customers' reactor programs.

Improvements in several processing steps were achieved in 1972, resulting in increased conversion efficiency. A temporary problem of UF $_{\rm 6}$  product contamination was overcome by the combined efforts of refinery and R & D personnel without causing any interruption in the company's contractual deliveries.

Production of natural ceramic  $UO_2$  in 1972 reached a new record level in meeting demand arising from the outstanding performance of the Canadian-designed natural uranium reactors operated by the Ontario and Quebec Hydro Electric Power Commissions. Both the original batch-type circuit, and the continuous circuit installed in 1970, were utilized for most of the year, producing material of nuclear purity in keeping with the established high quality of the company's refined products.

As in the case of natural UO $_2$ , the production of enriched UO $_2$  in 1972 surpassed all previous years' records. The great variety of orders completed in 1972 involved enrichments, ranging from 0.9% to fully enriched 93% U $_{235}$ , using as source material enriched UF $_6$  from the United States diffusion plants.

Custom development work continued to represent a significant portion of the uranium and process metallurgical sections' activities during the year. A major order called for the production of uranium carbide for a replacement core of one of AECL's research reactors. In addition, other types of high density nuclear fuel were produced for reactor experiments.

The development program involving the production of nickel-chrome alloys for fabrication into electrical resistance wire, undertaken in 1971 at the request and with the financial assistance of the Department of Industry, Trade and Commerce, was completed during 1972. High quality alloy billets were successfully made, and resultant wire proved superior to any other existing available product. However, it has been determined that the viability of plant scale production of this material in Canada cannot be assured at this time; accordingly, all information compiled by the company on production methods and experience has

General Report Continued on Page 12

# Statement of Income and Expense

for the year ended December 31, 1972 (with comparative figures for the year ended December 31, 1971)

	1972	1971
Income:		
Sales — Company's products and services	\$ 9,730,486	\$ 11,095,320
Expense:		
Cost of products and services sold	9,702,845	10,885,816
Scientific research	585,697	728,866
Administration	348,798	361,964
Exploration	106,374	67,478
Marketing	329,151	398,251
	11,072,865	12,442,375
Net loss from operations	1,342,379	1,347,055
Other Income and Expense:		
Income arising from the ore procurement program	15,687	937,439
Interest and other non-operating income	135,795	110,710
	151,482	1,048,149
Less:	1 1 1 1 1 1 1 1 1 1	
Interest on loans from Canada	2,427,067	2,009,231
Other non-operating expense	22,868	21,218
	2,449,935	2,030,449
Net other expense	2,298,453	982,300
Net Loss	\$ 3,640,832	\$ 2,329,355

The accompanying notes are an integral part of the financial statements.

# Eldorado Nu

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(with comparative figur

## **ASSETS**

	1972	1971
Current Assets:		
Cash	\$ 347,402	\$ 222,851
Short-term bank deposits	4,250,000	1,900,000
Accounts receivable	1,406,383	3,268,109
Concentrates and refinery products valued at		
lower of cost or realizable value	47,342,571	40,364,589
Operating and general supplies, at cost	3,271,686	3,805,652
Prepaid expenses	230,582	213,546
	56,848,624	49,774,747
Deferred accounts receivable in respect of		
concentrates delivered (Note 1)	2,966,524	3,434,674
Investments and Loans:	407.450	407.450
Investments in wholly-owned subsidiary companies, at cost (Note 2)	187,153	187,153
Employees' housing loans	28,762	44,350
Municipal Corporation of Uranium City and District, 5% to 8¼% debentures, maturing 1975-88	600,355	675,864
District, 5% to 6/4% dependies, maturing 1575-50		
	816,270	907,367
Unamortized Expense:		
Pre-production and mine development costs	8,558,288	8,281,497
Excess of costs and expenses over sales of concentrates procured from other producers	· · · · ·	109,957
	8,558,288	8,391,454
Capital Assets:		
	77,723,782	76,450,577
Property, plant and equipment, at cost  Less: Accumulated depreciation	51,573,037	49,568,849
2000. Accumulated depreciation		
	26,150,745	26,881,728
	\$ 95,340,451	\$ 89,389,970

The accompanying notes are an integral part of the financial statements.

Approved on behalf of the Board

W. M. GILCHRIST, Director

M. A. BÉLANGER, Director

# ear Limited

da Corporations Act)

#### SHEET

, 1972

December 31, 1971)

### LIABILITIES

Current Liabilities:	1972	1971
Accounts payable	\$ 1,568,420	\$ 5,996,067
Loans from Canada due within one year (Note 3)	7,103,828	5,516,145
to be delivered	2,209,963	251,050
	10,882,211	11,763,262
Advance payments in respect of concentrates to be delivered in later years	788,166	2,635,400
Deferred accounts in respect of purchase and development programs	1,790,419	1,097,963
Loans from Canada (Note 3)	39,466,012	27,838,870

#### Capital:

Capital Stock:  Authorized — 110,000 shares of no par value		
Issued — 70,500 shares, fully paid	6,586,080	6,586,080
Retained earnings	35,827,563	39,468,395
	42,413,643	46,054,475
	\$ 95,340,451	\$ 89,389,970

I have examined the above Balance Sheet and the related Statements of Income and Expense, Retained Earnings and Source and Application of Funds, and have reported thereon under date of March 8, 1973 to the Minister of Energy, Mines and Resources.

A. M. HENDERSON,
Auditor General of Canada

#### Eldorado Nuclear Limited

#### Notes to Financial Statements

#### 1. Deferred Accounts Receivable

These are receivable under a contract which provides for payment to be made following shipment of products as required during the period 1974-1975.

#### 2. Subsidiary Companies

The assets, liabilities, income and expense of the Company's two wholly-owned subsidiaries, Northern Transportation Company Limited and Eldorado Aviation Limited, have not been included in the financial statements of Eldorado Nuclear Limited as each company is a Crown corporation as defined in the Financial Administration Act, and is required under that Act to report annually to the appropriate Minister. Northern Transportation Company Limited earned a profit of \$1,955,223 for the year 1972. The net expense of Eldorado Aviation Limited totalling \$897,733 for the year 1972 was recovered from Eldorado Nuclear Limited and Northern Transportation Company Limited. The aggregate undistributed profits earned by the two subsidiaries since acquisition by Eldorado Nuclear Limited amount to \$9,336,308.

#### 3. Loans from Canada

The Company has borrowed \$54,400,000, subject to terms and conditions prescribed by the Governor in Council. Outstanding principal and interest at December 31, 1972 amounted to \$46,569,840, of which \$7,103,828 is due to be repaid within one year and the balance of \$39,466,012 is repayable by October 15, 1977. Discussions are in progress aimed at deferral of certain payments due pursuant to the existing terms and conditions of the loans.

#### 4. Government of Canada Uranium Stockpile

The Company is the custodian of uranium-bearing concentrates acquired for the government of Canada at a cost of \$101,183,000. This cost, which has been charged to parliamentary appropriations, is not included in the accounts of the Company.

#### 5. Depreciation

Depreciation included in the accounts amounted to \$2,066,370 based on rates which, at capacity output, ensure complete write-off of fixed assets other than the zirconium plant, over not more than ten years. This amount includes a nominal figure of \$200,000 for the zirconium plant, which was intermittently employed for purposes other than the production of zirconium.

#### 6. Supplementary Information

The accounts for 1972 include the following: amortization of preproduction and mine development costs, \$1,016,492; remuneration of directors as directors, \$6,000; and remuneration of officers as officers, \$179,000. The Company has seven directors and six officers; one officer is also a director.

Northern Transportation Company Limited has eight directors and five officers; three officers are also directors; remuneration of directors as directors was \$2,000 and remuneration of officers as officers, \$77,000. Eldorado Aviation Limited has four directors and three officers, two of whom are also directors; no compensation was paid to either officers or directors.

# Statement of Sales and Costs of Uranium Concentrates procured from other Producers

(for the year ended December 31, 1972)
(with comparative figures for the year ended December 31, 1971)

		1972	1971
Sales of concentrates	\$	2,752,557	\$ 12,730,607
Costs of concentrates sold		2,626,913	11,280,187
		125,644	1,450,420
Amortination of success of south and success			
Amortization of excess of costs and exper			
sales of concentrates procured from (	otn		
producers		109,957	512,981

The accompanying notes are an integral part of the financial statements.

15.687

937.439

### Statement of Retained Earnings

Net income to Company operations ...... \$

(for the year ended December 31, 1972) (with comparative figures for the year ended December 31, 1971)

	1972	1971
Balance at January 1	\$ 39,468,395	\$ 41,797,750
Net loss for the year	3,640,832	2,329,355
Balance at December 31	\$ 35,827,563	\$ 39,468,395

The accompanying notes are an integral part of the financial statements.

# Statement of Source and Application of Funds

(for the year ended December 31, 1972) (with comparative figures for the year ended December 31, 1971)

(With Comparative figures for the year	onada Booomia	01, 1071,
	1972	1971
Source of Funds:		
Net Loss	\$ (3,640,832)	\$ (2,329,355)
Items charged to operations not requi		
a current outlay of funds	4,802,707	4,520,397
	1,161,875	2,191,042
Loans from Canada	17,200,000	11,000,000
Reduction in deferred accounts		
receivable	468,150	1,564,722
Reduction in debentures and	04.007	400.000
housing loans	91,097	122,883
	18,921,122	14,878,647
Application of Funds:		
Repayment of loans from Canada	6,500,000	5,200,000
Reduction in long-term		
advance payments		951,044
Capital assets	1,325,677	1,355,455
Pre-production and mine	4 202 202	001 026
development costs	1,293,283	801,826
	10,966,194	8,308,325
Increase in Working Capital	7,954,928	6,570,322
Working Capital at the beginning of		
the year	38,011,485	31,441,163
Working Capital at the end of		
the year	\$ 45,966,413	\$ 38,011,485

The accompanying notes are an integral part of the financial statements.

#### AUDITOR GENERAL OF CANADA

Ottawa, March 8, 1973.

The Honourable
Donald S. Macdonald,
Minister of Energy, Mines and
Resources, Ottawa.

Sir.

I have examined the accounts and financial statements of Eldorado Nuclear Limited for the year ended December 31, 1972. My examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as I considered necessary in the circumstances.

In compliance with the requirements of Section 77 of the Financial Administration Act, I report that, in my opinion:

- (a) proper books of account have been kept by the Company;
- (b) the financial statements of the Company
  - (i) were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
  - (ii) in the case of the balance sheet, give a true and fair view of the state of the Company's affairs as at the end of the financial year, and
  - (iii) in the case of the statement of income and expense, give a true and fair view of the income and expense of the Company for the financial year, and
  - (iv) in the case of the statement of source and application of funds present fairly the source and application of the Company's funds for the financial year; and
- (c) the transactions of the Company that have come under my notice have been within the powers of the Company under the Financial Administration Act and any other Act applicable to the Company.

Yours faithfully, A.M. HENDERSON, Auditor General of Canada.

# **ELDORADO AVIATION LIMITED**

(Incorporated under the Canada Corporations Act)

## **Balance Sheet**

at December 31, 1972

(with comparative figures at December 31, 1971)

#### ASSETS

#### LIABILITIES

	1972	1971		1972	1971
Current Assets:			Current Liabilities:		
Cash	\$ 116,602	\$ 18,658	Accounts payable	. \$ 45,958	\$ 14,239
Accounts receivable: Northern Transportation	F 040	00.405	Eldorado Nuclear Limited		(7,360)
Company Limited	5,013	39,495		60,789	6,879
Other	1,362	5,596			
	6,375	45,091	Capital:		
Operating supplies, at cost	70,077	74,986	•		
Prepaid insurance	32,455	26,965	Capital Stock:		
	225,509	165,700	Authorized — 50,000 shares at \$1 each		
Capital Assets, at cost:			Issued — 28,006 shares	28,006	28,006
Aircraft, including major spare parts	1,033,026	1,020,226	Surplus		257,039
Shop, hangar and Loading equipment	46,100	46,695		285,045	285,045
Office furniture					
and equipment	9,752	9,752			
	1,088,878	1,076,673		4	
Less: Accumulated					
depreciation	968,553	950,449			
	120,325	126,224			
	\$ 345,834	\$ 291,924		\$ 345,834	\$ 291,924

Approved on behalf of the Board W. M. GILCHRIST, Director R. C. POWELL, Director

I have examined the above Balance Sheet and the related Statement of Recoverable Expense and have reported thereon under date of March 8, 1973 to the Minister of Energy, Mines and Resources.

A. M. HENDERSON

Auditor General of Canada

#### ELDORADO AVIATION LIMITED

### Statement of Recoverable Expense

for the year ended December 31, 1972 (with comparative figures for the year ended December 31, 1971)

		1972		1971
Salaries and wages	\$	446,569	\$	420,329
Employee benefits		47,934		44,956
Supplies		174,943		158,988
Repairs		150,973		175,139
Hangar expense		46,223		45,463
Insurance		35,124		47,732
Depreciation		24,655		19,241
Landing fees		13,198		12,862
Travel		1,107		1,861
Miscellaneous		15,851		13,048
		956,577	_	939,619
Miscellaneous income		58,844		25,058
Net expense	\$	897,733	\$	914,561
Net expense recovered from:				
Eldorado Nuclear Limited Northern Transportation	\$	566,808	9	672,084
Company Limited		330,925		242,477
	\$	897,733	\$	914,561
	_		=	

NOTE: The Company has four directors and three officers, two of whom are also directors. No compensation was paid.

#### AUDITOR GENERAL OF CANADA

Ottawa, March 8, 1973

The Honourable
Donald S. Macdonald,
Minister of Energy, Mines and
Resources, Ottawa.

Sir:

I have examined the accounts and financial statements of Eldorado Aviation Limited for the year ended December 31, 1972. My examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as I considered necessary in the circumstances.

In compliance with the requirements of Section 77 of the Financial Administration Act, I report that, in my opinion:

- (a) proper books of account have been kept by the Company;
- (b) the financial statements of the Company
  - were prepared on a basis consistent with that of the preceding year and are in agreement with the books of account,
  - (ii) in the case of the balance sheet, give a true and fair view of the state of the Company's affairs as at the end of the financial year, and
  - (iii) in the case of the statement of recoverable expense, give a true and fair view of the expense of the Company for the financial year; and
- (c) the transactions of the Company that have come under my notice have been within the powers of the Company under the Financial Administration Act and any other Act applicable to the Company.

Yours faithfully, A.M. HENDERSON, Auditor General of Canada.

### GENERAL REPORT

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been turned over to the Department for exploitation when conditions warrant.

The zirconium plant continued to be maintained on stand-by in 1972, although intermittently metallurgical work was done in the plant on zirconium metal drawn from inventory to fill small specialty orders and the plant was used for purposes other than zirconium production.

During the year the solvent extraction processing plant was again employed in part in the treatment of effluents. A most novel use discovered in 1972 for ammonium nitrate, one of the company's products of effluent treatment, should be pointed out: concentrated solutions of the chemical are dumped in cheese factory waste lagoons to promote bacterial action and reduce odor emission, particularly in hot weather. Officials of the Industrial Wastes Branch of the Ontario Department of the Environment have followed the experiment closely and expressed satisfaction with the results.

#### Sales and Promotion

World-wide efforts by the marketing staff and the company's sales agents abroad brought in new orders in 1972 for various products and services valued, including options, in excess of \$33 million. As in previous years, most of the new contracts are long-term, covering periods extending as far as 1981.

Sales of ceramic grade UO2, for the year surpassed the record set in 1971 and significant further increases appear assured by the dramatic operating success of the Candu-type reactors, particularly in Canada. Deliveries of UF<sub>16</sub> for the account of utilities in Japan, United States, Germany and Sweden continued throughout the year, using both Eldorado concentrates and concentrates supplied by the customers. Although some customers were again forced in 1972 by slippage in their reactor programs to exercise their right to defer deliveries within contractual limits, and for certain customers election of additional deferment seems inevitable in 1973, by and large there are indications that slippage is diminishing.

Work on spent fuel casks was vigorously continued in the year under review. A contract was secured for the construction of a Canadian-

designed container and design of Eldorado's own cask was further developed. Application for licensing is imminent and several bids have been tendered on casks for export.

#### Research and Development Division

Research on projects for the Beaverlodge Operation was markedly reduced in 1972 as the continued high extraction and general good mill performance precluded the need for extensive R & D work at this time. Some work was done in an attempt to accelerate the leaching process by changing mixing speed and using additives. This work will be carried forward in 1973 to ensure that future increases in tonnage will not result in lower extraction rates. Exchange of process and equipment information with the mine staff has continued and duplication of effort is being carefully avoided. Routine control tests are now done only at the Beaverlodge mill and the back-up Ottawa tests have been discontinued.

As in 1971, the Division's attention was focused in 1972 on the refinery operations at Port Hope. A pilot plant was successfully operated on two-stage hydrofluorination and a second stage production reactor was installed producing greensalt of a higher grade at high rates of throughput with reduced chemical consumption. An effluent plant for UF6 wastes was designed with operating staff assistance. Methods and equipment for the tracing of impurities in products and side circuit streams were developed during the year and proved effective by year-end. An in-plant method for measuring excess HF reagent was demonstrated and has since been implemented. Several mechanical devices were built and tested for immediate or longer range application. These included draw-off feeders for the reactors and a turbine compressor as a future replacement of the existing bank of diaphragm compressors.

Alternative flowsheets for the production of UF $_4$  were investigated, including wet methods recently reported upon both in France and Japan. Adaptability to Eldorado conditions is being examined in conjunction with an overall assessment of any advantages in economy, product quality and effluent elimination. This program of evaluation will continue in part in 1973.

Little custom work was done in 1972. Direct approaches to government departments were made, but no contracts could be obtained which would support environmental or other investigative work in the company's laboratory.

The proposals and services offered were received with interest; however, no funds were evidently available in support of testwork. As a result and with great regret, there was no alternative but to proceed with a cut-back in the Division's activities necessitating the release of eleven employees, comprised of six professionals, four technicians and one clerk, of whom most had been with the company for over ten years and made a significant contribution to the Division's demonstrated achievements. It is gratifying to note that the company's assistance locating alternative suitable employment proved generally fruitful and that all of the laidoff employees succeeded in securing another position either upon or very quickly after leaving the company's service.

#### **Uranium Procurement**

The delivery in 1972 of the final balance of the Canadian uranium producers' commitments to the United Kingdom Atomic Energy Authority marked the end of Eldorado's historic role over a quarter century as the Canadian government's agent responsible for the negotiation and administration of uranium contracts with a value in excess of \$1,700 million. Notwithstanding the cessation of the company's ore procurement function, the company continues to be the custodian of the Canadian Government's uranium stockpiles.

#### Organization and Manpower

The company's work force at December 31, 1972 numbered 5% fewer persons than at year end 1971, as shown in the following table:

	Hourly	Hourly		Totals		
	Rated	Salaried	1972	1971		
Beaverlodge Operations	245	127	372	381		
Port Hope Refinery	173	76	249	263		
Research & Development	-	23	23	35		
Marketing	-	7	7	7		
Edmonton Office	-	2	2	9		
Head Office	-	28	28	23		
	418	263	681	718		

The reductions at the Beaverlodge mine and at the Research and Development Division

arose primarily out of the curtailment of activities; the decrease at the Refinery is due mainly to reduced operations but also to the transfer of responsibility for uranium accountability to the accounting services group within the head office.

Wages and salaries paid by the company in 1972 amounted to \$7,332,998 as compared with \$7,385,663 in 1971. The company's contributions to pension, employee group insurance and medical insurance plans totalled \$547,592.

#### **Eldorado Aviation Limited**

This wholly-owned subsidiary operated routinely throughout the year to provide contract air service to the parent company and to Northern Transportation Company Limited. Hours of operation and mileage flown were approximately the same as in 1971, although ton-mileage increased by some 3%. Ton-mile costs were some 4% lower than in the year previous. A second DC-4 aircraft was acquired during the year and will provide greater flexibility to the operation, particularly in providing "mainline" passenger and freight service between Edmonton and the Beaverlodge mine. One DC-3 was used in the summer months to service the requirements of the agencies of Northern Transportation Company, and the second DC-3 was dry-leased for a short period and used as back-up when required. The company's four helicopters were again employed on behalf of the associated companies in servicing hydro lines, prospecting parties and in ice reconnaisance, search and rescue standby, and ship-to-shore duties.

At the end of the year the staff numbered 39. Salaries and wages amounted to \$430,524 and company contributions to group life insurance, medical insurance and pension plans totalled \$47,934.

Late in the year Mr. George Frank retired as General Manager after some 26 years with the organization, and Mr. A.B. Caywood relinquished his directorship in the latter part of the year.

